

XLVIII.—*On a new Species of the Hepialid Genus Cœnetus.*
By the Hon. WALTER ROTHSCHILD.

Cœnetus mirabilis, sp. n.

Male.—*Upperside*. Fore wings opalescent sky-blue; costa, a central and a submarginal transverse band bright green; on the inner side of the central transverse band is a row of oblong white spots; basal half of fore wings and costa netted all over with greyish-white half-moon-shaped spots; outer half of fore wings crossed by four transverse rows of small whitish-grey rings enclosing a green spot.

Hind wings opalescent white: thorax and fore legs greyish green; abdomen white, with two enormous yellowish-brown lateral tufts at the base.

Underside of wings and body greenish white.

Expanse 5·5 inches = 140 millim.

Hab. Cedar Bay, North Queensland.

Note.—Viewed from behind or in a bad light this moth does not exhibit the blue ground, but appears of a dull sage-green. The extraordinary tufts at the base of the abdomen are unquestionably the atrophied last pair of legs, which have been transformed into male scent-producing organs, in the midst of which the tarsi plainly project, though thin, abortive, and functionless.

XLIX.—*Note on the Food of Sagitta.* By ARTHUR T. MASTERMAN, B.A. (Cantab.), Assistant Professor of Natural History, University of St. Andrews.

THE food of this common pelagic animal has been a subject to which much attention has been paid, amongst others, by Mr. Scott*, Naturalist to the Scottish Fishery Board. He finds, partly by direct observation and partly by examination of the contents of the alimentary canal, that *Sagittæ* prey upon such Copepods as *Calanus finmarchicus* and small Amphipods (*Phoxeus plumosus*, for example), and that small larval and postlarval fishes do not come amiss to them, which has an important bearing when the enormous numbers of *Sagittæ* which frequently occur in the tow-nets are taken into account. At any rate *Sagitta* must take its place amongst the enemies of the fry of our food-fishes. Recently Mr. Scott finds that *Sagitta* preys upon its own species, and he describes a case of this as observed by himself.

In September 1892 in the St. Andrews Marine Laboratory

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one or two small colonies of *Obelia* obtained in the bottom tow-net were preserved, on account of the fact that they presented a curious appearance, several of the polyps having elongated processes attached to them. Prof. McIntosh recently handed these specimens over to the writer to examine more closely; and an inspection soon showed that the elongated processes were young *Sagittæ* firmly united to the

Fig. 1.



Fig. 2.



contracted polyps. In figure 1 will be seen a drawing of the apical group of polyps of a hydroid colony, showing no less than three more or less digested *Sagittæ*. In figure 2 is seen a polyp from a similar colony, showing a *Sagitta* at a different stage of digestion. The young *Sagittæ* have evidently been caught by the head and held by the tentacles of the hydroids till death ensued. The process of digestion has then proceeded, the body of the victim being slowly absorbed into the digestive cavity of the polyps. We may easily imagine that the young *Sagittæ* attracted by the waving tentacles, and attempting to browse on the same, are quickly caught and held fast by them. Larger *Sagittæ* would probably feed upon the hydroids with impunity.

The digestive capacity of the Hydrozoa seems only to be limited by the size of the victim, and many instances of their voracity are known. The above is paralleled by the well-known cases of medusæ being found enveloping larval and postlarval fish, and by a case amongst the ctenophores of a *Cydippe* devouring a dead young fish, which occurred recently at the St. Andrews Laboratory.